

A case of Meningiomyelocele Diagnosed by Magnetic Resonance Imaging (MRI)

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Abstract: 2years old male baby has a swelling in the posterior lower cervical region discovered by his mother, this swelling increase in size with age. MRI was requested, showed that there is protrusion of the spinal cord and meninges out of the neural canal.

Keywords: MRI, Meningiomyelocele.

INTRODUCTION

Meningiomyelocele (MMC) is a complex congenital spinal anomaly, results from neural tube defect during first 4 weeks of gestation. Cervical meningocele is an extremely uncommon congenital spinal anomaly and the incidence is 3- 5 % among spina bifida cystic [1]. Usually children don't present with the neurological manifestations at birth, but surgical exploration is warranted to prevent the future neurological deterioration [2].

In this report, the researcher presents a neonate with the lower cervical meningocele which was successfully surgically treated.

Magnetic resonance imaging (MRI) is a medical imaging technique used in radiology to investigate anatomy and physiology of the body in both health and disease. MRI scanners use strong magnetic fields and radio waves to form images of the body. The technique is widely used in hospitals for medical diagnosis, staging of disease and for follow-up without exposure to ionizing radiation. MRI has a wide range of applications in medical diagnosis and there are estimated to be over 25,000 scanners in use worldwide [3]. MRI has an impact on diagnosis and treatment in many specialties although the effect on improved health outcomes is uncertain [4].

CASE REPORT

A 2years old male baby referred to the MRI department complaining of a swelling in the posterior lower cervical region. MRI cervical was done showed

that there is protrusion of the meninges and spinal cord Fig 1&2.



Fig. 1: Sagittal T1 MRI cervical spine shows Meningiomyelocele



Fig. 2: Sagittal MRI (FLAIR) cervical spine shows meningiomyelocele

DISCUSSION

Meningomyelocele is hernial protrusion of meninges plus neural tissue resulting from congenital failure of neural tube to close [4]. Majority of meningocele defect (80%) occur in lumbosacral area and neurological deficits distal to the defect are more severe. The clinical presentation will vary significantly according to anatomical defect involved. Orthopedic and Urologic symptoms may result in children with uncorrected meningoceles as a result of tethering of spinal cord by sacral nerve roots [5-6]. Associated congenital conditions include clubfoot, Hydrocephalus, Exstrophy of bladder, prolapsed uterus, Klippel-Feil syndrome and rarely cardiac defects [6].

Magnetic resonance imaging was performed to characterise the soft tissue using a 0.5 Tesla scanner. The foal was placed in dorsal recumbency on the table and scanned in T1- and T2-weighted spin and gradient sequences. Images were obtained in sagittal, transverse and dorsal planes. Tissue characterisation in T1-weighted sequences was made in relation to the longissimusdorsi muscle (Fig. 1). Tissue of isointense signal intensity extended through the dorsal opening of affected vertebrae, representing grey and white matter (Fig. 1-2). The isointense, inhomogenous tissue originating from the epidural space was enlarged in its dorsoventral dimensions [8].

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